

Announcement of the 2011 ICMI Medalists

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The ICMI Award Committee has decided on the Medalists for 2011. They are:

- *Felix Klein Medal* for lifetime achievement: Alan Schoenfeld
- *Hans Freudenthal Medal* for a major cumulative programme of research: Luis Radford.

Schoenfeld and Radford will be honoured at ICME-12 in Seoul later this year when full citations will be announced.

Short Citations

Alan H. Schoenfeld, University of California at Berkeley, USA

The Felix Klein Medal for 2011 is given to the Elizabeth and Edward Connor Professor of Education and Affiliated Professor of Mathematics, Alan H. Schoenfeld, University of California at Berkeley, USA, in recognition of his more than thirty years of sustained, outstanding lifetime achievements in mathematics education research and development. Alan Schoenfeld developed a keen interest in mathematics education early in his career, and emerged as a leader in research on mathematical problem solving. He shows a lifelong pursuit of deeper understanding of the nature and development of mathematical learning and teaching. His work has helped to shape research and theory development in these areas, making a seminal impact on subsequent research. Alan Schoenfeld has also done fundamental theoretical and applied work that connects research and practice in assessment, mathematical curriculum, diversity in mathematics education, research methodology, and teacher education. He has more than 200 highly-cited publications in mathematics education, mathematics, educational research, and educational psychology. His scholarship is of the highest quality, reflected in esteemed recognition over the years.

Alan Schoenfeld has nurtured a generation of new scholars who generate increasing impact on mathematics education research. He has undertaken a remarkable amount of outstanding work for national, regional, and international communities in education, mathematics, and mathematics education, providing leadership in professional associations and joint research endeavors, and has been an invited keynote speaker at numerous conferences around the globe. Alan Schoenfeld began his career as a research mathematician. After obtaining a B.A. in mathematics from Queen's College, New York, in 1968,

and an M.S in mathematics from Stanford University in 1969, he earned a PhD in mathematics at Stanford in 1973. He became a lecturer at the University of California at Davis in 1973, and in 1975 a lecturer and research mathematician in the Graduate Group in Science and Mathematics Education (SESAME) at the University of California at Berkeley. After academic appointments at Hamilton College (1978–1981) and the University of Rochester (1981–1984), Alan Schoenfeld was invited back to U.C. Berkeley in 1985 to develop the mathematics education group. He has been a full professor since 1987, and now has a named chair in education and is an affiliated professor in the mathematics department. He has also been a Special Professor of the University of Nottingham since 1994.

He has been an elected member of the U.S. National Academy of Education since 1994, a member of its Executive Board in 1995, and Vice President in 2001. He also served as the President of American Educational Research Association (AERA) in 1998/9. In 2000 he led the writing team for *Principles and Standards for School Mathematics* for the National Council of Teachers of Mathematics.

Amongst Alan Schoenfeld's many publications we mention his highly-cited, groundbreaking book, *Mathematical Problem Solving* (1985), his chapter on cognition and metacognition, *Learning to think mathematically: Problem solving, metacognition, and sense-making in mathematics* (in the 1992 *Handbook for Research on Mathematics Teaching and Learning*), his rigorous study of the development and learning of a complex mathematical idea, *Learning* (1993, co-authored with J.P. Smith and A.A. Arcavi), his finely-detailed work on teacher decision making, *Toward a theory of teaching-in-context* (published in *Issues in Education* in 1998), and his most recent book, *How We Think* (2010). Alan Schoenfeld's seminal theoretical contributions are all based on, and buttressed by, long sequences of carefully designed experiments and their exhaustive analysis.

Luis Radford, Université Laurentienne, Sudbury, Canada

The Hans Freudenthal Medal for 2011 is given to Professor Luis Radford, Université Laurentienne, Canada, in recognition of the theoretically well-conceived and highly coherent research programme over the past two decades which has had a significant impact on the community.

His development of a semiotic-cultural theory of learning has been anchored in detailed observations of students' algebraic activity. His research, has been documented extensively in renowned scientific journals, books and handbooks, as well as in numerous invited keynote presentations. The impact of Luis Radford's programme of research has led to significant new insights in algebra teaching and learning, and more broadly, with his development of a widely applicable theory of learning.

Luis Radford has given many mentoring workshops for graduate students Italy, Spain, Denmark, Colombia, Mexico, and Brazil. He has influenced teachers, teacher educators, and curriculum developer. He has served as associate editor of *For the Learning of Mathematics* and is currently an associate editor of *Educational Studies in Mathematics*.

Luis Radford graduated from the Universidad de San Carlos in Guatemala in 1977 with a degree in Civil Engineering. He then taught at that university's Engineering School, followed by studies at Université Louis Pasteur I, Strasbourg, France, where he obtained a *Licence* in Mathematics and Fundamental Applications in 1981, a *Diplôme* of Advanced Studies in Mathematical Didactics in 1983, and a *Doctorat de troisième cycle* in Mathematical Didactics in 1985. He then returned to

Guatemala where he taught as an Associate Professor at the Universidad de San Carlos in the Humanities Faculty. In 1992, he moved to Canada where he obtained a position in the School of Education at Université Laurentienne, Sudbury, Ontario, as Full Professor.

Luis Radford's research programme can be traced back to the early 1990s when he initiated a study that examined the role of historical-epistemological analyses of learning within a socio-cultural perspective. His work continued to evolve, drawing upon the works of Vygotsky, Bakhtin, and Voloshinov to develop a semiotic-cultural framework to investigate the ways in which students use signs and endow them with meaning in their initial encounters with algebra. In further development he elaborated the notion that thinking is a sensuous and sign-mediated reflective activity embodied in the corporeality of actions, gestures, and artifacts, leading to a formulation of knowing and being as mutually constitutive. Luis Radford has more than 170 publications, many of them highly cited.

Luis Radford's research programme was ranked first in three consecutive competitions of the Social Sciences and Humanities Research Council of Canada (Education 1): 2004–2007, 2007–2010, and 2010–2013.